

## **REMARKS**

The claims have been renumbered in accordance with the Examiner's remarks presented in the Office Communication of 26 June 2007. In particular, two claims were mistakenly numbered "31" upon filing, hence, the second claim 31 is incremented by one, as are all following claims.

Claims 1-21, 24-27, 30, 32, 33 and 37-47 remain pending in the instant application. Claims 22, 23, 28, 29, 31 and 34-36 are cancelled without prejudice. Claims 1-12, 13-21, 24-27, 30, 32, 33 and 37-46 are amended herewith, without new matter. Claim 47 is newly added, but also does not introduce any new matter, pursuant exemplary support from the instant application (hereinafter, the "'453 Application"), provided below.

The '453 Application is the U.S. National Phase of PCT/US2003/33522. Upon national phase entry on 22 April 2005, Applicants submitted a substitute specification in order to introduce substitute claims 1-26 (hereinafter, the "substitute specification"). However, the claims in the parent PCT application were counted and billed for. The substitute specification is viewable in PAIR under "Documents Submitted With 371 Applications;" however, it does not appear that the substitute specification was forwarded to the Examiner for consideration.

In a July 16 telephone conversation with Applicants' representative, Examiner Scott Richey noted receipt by the USPTO of the substitute specification, and advised Applicants to either (a) simultaneously respond to the Restriction Requirement and file an amendment to make the '453 Application reflect the substitute specification, or (b) await a first Office Action. Per the Examiner's helpful advice, and in order to speed prosecution and avoid incurring extension fees associated with the Restriction Requirement, Applicants have chosen the former course of action. These amendments and remarks are an attempt to simultaneously answer the Examiner's requirement for restriction and harmonize the '453 Application with the substitute specification.

## 1. Support for Claim Amendments

The amendments to claims 1-12, 13-21, 24-27, 30, 32, 33 and 37-46, and new claim 47, are fully supported by the '453 Application. For example:

### Independent Claims:

- Support for detection of changes in a spatially nonuniform optical intensity distribution and voltage changes represent in g change in the intensity distribution (as in independent **claims 1 and 18**) may be found throughout the specification, including ¶¶[0008], [0034]-[0036] and [0041]-[0042].
- Support for contacts/input electrodes to drive current through areas of photoconductive materials and non-identical or different contacts/output electrodes for measuring voltage across the areas (as in independent **claims 1 and 18**) is found at ¶¶[0034]-[0036], [0043], [0051]-[0052] and at FIGs. 1, 3 and 7-7A, among other locations.
- Exemplary support for one or more conductive paths connecting the input electrodes and the output electrodes to the areas of photoconductive material to form a series circuit (independent **claim 18**) is found at ¶[0006]; see also FIGs. 1, 3 and 10.

### Dependent Claims:

- The amendments to dependent claims 2-6, 8, 9, 11-17, 19-21, 25, 27, 30, 32, 33, 37-42 and 44-46 are made for clarity and/or language consistency of between independent and dependent claims.
- Support for the **claim 7** feature of determining motion of an object surface that causes change in illumination includes ¶¶[0018] and [0019].
- Support for the **claim 10** features of illuminating a surface such that moving speckle illuminates areas of photoconductive material, and determining surface motion by sensing voltage across the areas is supported throughout the '453 Application, including ¶¶[0018] and [0062].

- Support for one or more optical fibers and one or more lasers generating laser beams into one or more first ends of the optical fibers (**claim 24**) is found at ¶¶[0054]-[0056] and FIGs. 8-9.
- A laser generating a laser beam into one or more arms of a power splitter (as in **claim 26**) is supported at ¶[0054] and at FIG. 8, among other areas of the '453 Application.
- Steps of assessing relative position between objects and optimally aligning the objects, according to the changes in the interference or diffraction pattern (**claim 43**) are supported at ¶¶[0058]-[0059], claim 43 "as filed" and FIG. 10.
- Exemplary support for the **new claim 47** features of comparing time rate of change in voltage across at least two areas of photoconductive material, a difference therein being indicative of spatial characteristics of the spatially nonuniform optical intensity distribution, includes ¶¶[0034] and [0042].

## 2. Election and Response

The Examiner has required election of one of the following claim groups:

Group A:	Claims 1-9;
Group B:	Claims 10-13;
Group C:	Claims 14-17;
Group D:	Claims 18-30
Group E:	Claims 31-42 and 43; and
Group F:	Claim 45.

Because Applicants are required to elect one of groups A-F, Applicants provisionally elect group D, which includes claim 18. However, given the amendments presented herein, all of claims 18-21, 24, 27, 30, 32, 33 and 37-42 now depend from claim 18. Hence, Applicants submit that all of these claims should now also be included in group D.

Applicants further submit that restriction of the amended claims is no longer appropriate, as the claims do relate to a single general inventive concept under PCT Rule 13.1. For example, independent claim 1 recites a method for detecting changes in a

spatially nonuniform optical intensity distribution, including the novel use of one pair of electrical contacts to drive current through areas of photoconductive material, while two other electrical contacts (that are not identical to the driving pair of electrical contacts) are used to measure voltage across active areas. Independent claim 18 recites a device for detecting changes in a spatially nonuniform optical intensity distribution. The device likewise includes the novel feature of input electrodes for driving current through areas of photoconductive material while separate, different output electrodes sense voltage across the areas of photoconductive material.

Applicants submit that the present invention's use of separate input and output electrodes/electrical contacts are not well known. For example, US 3,942,898 ("Anderson"), cited by the Examiner, does not teach or suggest such features. Rather, Anderson relies upon a photodiode that receives light and then "acts as a current source which generates a current signal." Anderson col. 3, lines 47-30. On the other hand, in the '453 Application:

"The incident optical radiation is therefore not used as the power source to drive the signal, as in certain devices of the prior art...the optical sensor may be scaled to small size (e.g., in the micrometer range) since the photoconductivity of the photoconductive material depends on the detector's aspect ratio rather than on total surface area. This allows for detection over a single speckle, making it possible to reduce dimensions of the optical arrangement illuminating the surface to a portable unit...by using the four-point measurement, a voltage output is produced that is compatible with observation instruments such as an electronic scope or spectrum analyzer. The voltage output is for example millivolts, compared to nanoamps to microamps generated by photodiodes used in comparable applications." Specification ¶[0009], pp. 3-4.

Although Applicants have provisionally elected group D, in light of the amendments made to the claims, no claim should now be withdrawn. Applicants respectfully request the Examiner's consideration of the amended claims and the above remarks, and reconsideration of the Requirement for Restriction.

## CONCLUSION

Applicants respectfully request consideration of pending claims 1-21, 24-27, 30, 32, 33 and 37-47 and reconsideration of the Requirement for Restriction mailed 26 June 2007.

No fees are believed due; however, if any fee is deemed necessary in connection with this Amendment and Response to Restriction, please charge Deposit Account No. 12-0600. Should any questions arise regarding this submission or the '453 Application, the Examiner is encouraged to telephone Applicants' attorney, Curtis A. Vock at (720) 931-3011.

Respectfully submitted,

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